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PUBLIC POLICY CONSIDERATIONS OF PRICING TELEPHONE SERVICES

A STAFF STUDY

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LETTER OF TRANSMITTAL

FEBRUARY 15, 1984.

Hon. ROGER W. JEPSEN,
Chairman, Joint Economic Committee,
Congress of the United States, Washington, D.C.

DEAR MR. CHAIRMAN: Transmitted herewith for the use of the members of the Subcommittee on Agriculture and Transportation, the Joint Economic Committee, and the public at large is a staff study entitled "Public Policy Considerations of Pricing Telephone Services," written by staff economist Dale Jahr. He was assisted by Dawn Delves in preparing the document. This publication indicates that the telephone pricing system has flaws presenting problems to regulators, the industry, and consequently to consumers.

Exposing the telephone industry to competition while subjecting it to public policy requirements may produce some undesirable effects. With or without the implementation of the controversial Access Charge, consumers face the likelihood of higher rates due to these pricing problems and the potential of private network bypass. This study summarizes these issues. In addition, it discusses possible alternative funding sources for high cost area and "lifeline" assistance.

The reader is referred to an earlier Joint Economic Committee publication entitled "The Economic Issues of a Changing Telecommunications Industry," for additional background information on this important public policy matter.

Sincerely,

JAMES ABDNOR,
Chairman, Subcommittee on
Agriculture and Transportation.

CONTENTS

	Page
Letter of transmittal	III
Introduction	1
The market structure problem	2
The pricing problem	3
Economic principles, public policy, and the telephone industry	4
Winners and losers	6
Alternative funding sources	7
Conclusion	8

PUBLIC POLICY CONSIDERATIONS OF PRICING TELEPHONE SERVICES

By Dale Jahr

Introduction

A year ago, the Federal Communications Commission (FCC) issued a policy known as Docket 78–72, or the "access charge plan," which would alter slightly the way customers pay for telephone services. This action is in conjunction with its long-term objective of deregulating this industry and exposing it to competitive market forces.

The currently used pricing practice is to have interstate long-distance call charges absorb about 26 percent of the fixed costs associated with local exchanges. Since these charges are usage-based, the more long-distance calls one makes, the more one contributes to maintaining the local exchange. Because long distance represents about 11 percent of total calls made and just 8 percent of total minutes, the FCC and others argue that long-distance users should not be paying as much as they are. Artificially high long-distance rates create an incentive for large-volume users to bypass the public network and establish private facilities.

The FCC has decided that the cross-subsidy between interstate calls and local exchanges (which in 1981 amounted to about $7 per month per phone line nationally) should be phased out. It would be replaced by a phased-in access charge on telephone users (initially up to $6 per month on business and $2 per month on residential customers). At the same time, long-distance rates would be lowered (AT&T has applied for a 10½-percent rate decrease pending the implementation of the access charge decision).

Despite the merits of the access charge approach, the Congress is sensitive to voter outrage over telephone rate increases. The House passed and the Senate considered legislation which would disallow or postpone access charges on residential and one-line business customers, and would require interexchange carriers to continue supporting local service but to a smaller degree. Curiously, the Congress did not address the $6 business access charge which will be a noticeable increase for most small businesses, and primarily is concerned only with residential users. High-cost areas would receive extra assistance to keep local rates affordable. The FCC approach, in its Docket 78–72, also offers similar protection.

The controversy over access charges is not easily settled not only for the political reason that rate increases are unpopular but also because the pricing system has other problems. Critics claim cost studies have been inadequate in providing essential information in sound decision-making. Changes in the industry are forcing a wholesale reevaluation of how customers will be best served in the future.

Central to public policy goals is optimizing benefits to society. According to economic theory, that is best achieved in a competitive market structure where prices to consumers reflect the costs associated with providing those goods or services. The following sections discuss many of the considerations of why the Congress, the telecommunications industry, and its regulators need to study the economic issues more carefully before fully implementing access charges.

The Market Structure Problem

Many Federal regulators and industry analysts boast of the merits and benefits of exposing the telecommunications industry to competition. This view is disputed vigorously by others, however. Dr. Alfred Kahn, for example, in an October Joint Economic Committee hearing, questioned the wisdom of allowing competition in the long distance market. At that hearing he said:

> . . . there was never the same clear case for deregulation of communications. . . . I said many times we may find 20 or 30 years from now we wished that we were back at the monopoly stage. But if we go the way of competition . . . we must be consistent. We can't try to push water uphill.
>
> And being consistent means that if we had wanted to continue the present system of subsidization, we should not have introduced competition. Once you introduce competition you've got to find other ways of helping rural people . . . or poor people who would drop off the system.

In order for a competitive telecommunications market structure to thrive and provide optimal benefits, certain conditions should exist, including the first two points listed below. Regulatory actions, not market responses, have controlled both of these in the past. In addition, the nature of costs must be recognized, which is the third point listed here and which will be developed in greater detail because of the important relation between prices and costs in a competitive environment.

(1) A "large" or "sufficient" number of sellers must compete for customers' business to ensure that excess profiteering will not occur.

(2) Ideally, prices for telecommunications services will reflect precisely the costs of providing those services—the cost causer is the cost payer—if pricing is to be economically efficient. In economic language, when price equals the marginal cost, customers receive an optimal amount of the service according to their preferences, providers of the service maximize their profits at that point, and the economy will have allocated resources efficiently.

(3) The costs of telecommunications services have three features which significantly affect the optimal pricing of services:

(*a*) Virtually all types of telephone service share the use of common facilities.

(*b*) A large share of costs are fixed and nontraffic sensitive. To a less important degree, costs are becoming less distance sensitive as well.

(*c*) Costs on a per call basis, for both local and long distance services, vary by locality, due to both regulatory allowances and technological reasons.

The next section develops important considerations which influence pricing policy decisions.

The Pricing Problem

Pricing telephone services always has been difficult and arbitrary. Regulators, charged with balancing public goals and economics, have at times removed rate structures from market forces which guide them. The six points listed below summarize some of the considerations facing regulators:

(1) Because of the nature of costs in this industry, a new pricing structure probably would result in higher local service charges and lower long distance charges. Yet, the universal telephone service goal was accomplished in part by keeping basic local service affordable. However, this service is priced below the actual cost of providing it, and that difference must be made up by charging more for other services (long distance) than would otherwise occur. While it generally is agreed that local service is underpriced and long distance is overpriced, the dispute now centers around the degree to which that is true. Settling the dispute would be easier if additional, comprehensive cost analyses were performed.

(2) Different types of telephone service use commonly shared facilities. For example, local, long distance, WATS and toll-free calls all make use of local exchanges. If prices are to reflect the costs of providing these different services, then the costs associated with the shared facilities should be allocated among those services. This cost allocation practice is inherently arbitrary, and the validity of existing cost and cost allocation studies is challenged by many government, industry, and regulatory officials.

(3) The costs of providing telephone service are largely fixed. In other words, a substantial portion of the cost of building and maintaining the phone network does not have to do with actually *using* it. After a local switching exchange is hooked up and the wiring has been strung to each phone, the additional cost of making and receiving calls is small by comparison. The current pricing systems allowed by State regulators generally do not reflect this because the "correct" pricing solution would call for high monthly service charges. "Nontraffic sensitive costs" amount to $26 per month per phone line on average, and that level is considered to be prohibitively high and thereby a threat to universal service. (Some local exchanges have very high-fixed costs, for example, Bell System costs in Wyoming average $45 per month per line. Non-Bell may be even higher.)

(4) Long distance rates vary by distance and duration, while local calls generally do not. Since local calls are unlimited under a basic monthly fee, customers probably use the phone more than they would if local charges were usage-sensitive. However, as stated earlier, a large portion of costs is not traffic-sensitive, and

thus usage-based pricing is not entirely valid. Nevertheless, if policymakers want to continue the universal service objective by keeping basic monthly service affordable, a pricing system for local service employing some usage charges would be a way to generate revenue to support the phone network.

(5) While toll rates vary by distance, technical advances are making costs much less distance-sensitive. With the advent of microwave, satellite, fiber-optic cable, and other developments, it costs but slightly more to call 3,000 miles than to call 300 miles. Because State regulators control rates on intrastate calls and use these rates to help support local exchange costs, short-haul long distance charges sometimes exceed longer interstate calls.

(6) The interstate long distance pricing structure presently is uniform throughout the continental United States. A customer making a 1,500 mile call from Cody, Wyo., pays the same rate as the customer from Boston calling an equal distance. However, the costs related to long distance calling are not uniform nationwide. High-volume routes tend to have lower costs per call than slightly lower volume routes. In other terms, routes connecting metropolitan areas generally have lower unit costs than rural areas or small towns. If prices were to reflect the costs of service, toll rates would not be uniform as they are presently, and rural and residential areas already characterized as having high local exchange costs would be further burdened by higher long distance charges. Rate deaveraging almost certainly would result in higher rates along low-usage, noncompetitive routes (especially sparsely populated areas) and in lower rates along higher usage, highly competitive routes.

Economic Principles, Public Policy, and Telephone Industry

Because of technical change in the telecommunications industry, traditional regulatory practices are not sustainable if consumers are to be served and public goals are to be preserved. It is not known whether the long-distance service industry can operate optimally, or even satisfactorily, in the new regulatory and competitive environment. The FCC appears confident that it can. However, the characteristics of this industry do not match perfectly with the requisite conditions of a competitive market structure. Those imperfections will prevent some of the acclaimed benefits of competition from materializing fully and may indeed jeopardize the universal service concept. The following counterpoints demonstrate the problems associated with subjecting the industry to competition and subjecting customers to greater exposure to true costs:

(1) Recent entrants to the long distance market—other common carriers (OCC's) such as MCI, Sprint and SBS, regional WATS resellers, etc.)—may have only a slight economic advantage which allows them to offer lower rates. Rather, it is largely a regulatory advantage. The FCC and State regulators allow these new entrants to charge a rate different from AT&T, the dominant carrier. AT&T's long distance customers are required to contribute more financial support to all local exchanges. In

essence the presence of OCC's offers customers in selected locations an opportunity to take advantage of markets allowing deaveraged rates. If AT&T were allowed to compete fully and equally in those markets, the competition may not survive. Thus, the market may not be able to support many competitors.

(2) A fundamental question regarding fairness can be posed about offering certain customers a price advantage. This possibly discriminatory practice allows some preferred customers to escape certain regulatory rates designed to help finance the national phone network regardless of whether they pay their own full cost of having telephone service.

(3) Current prices for telephone services do not reflect the costs associated with them. It is estimated that 90 percent of all residential subscribers—urban and rural alike—do not pay the full cost of local service. If customers were to pay the full cost, the price for having a dial tone, that is access—before a single call is made or received—would be $26 per month per line on average. Both public and industry officials are concerned that if all these fixed costs were imposed on customers equally, then a sizable portion of them may elect to discontinue service, which is contrary to the universal service objective.

(4) A large proportion of total costs are fixed costs which may distort the principle of aligning prices with marginal costs. Marginal costs, to be applicable to this industry, should refer to longrun marginal costs. Besides variable costs associated with usage, longrun marginal costs would include return on investment, depreciation, and allowances for upgrading and expanding services. If this cost approach were taken, a price based on usage could be built into an overall pricing structure.

(5) Pricing according to marginal costs also requires that each cost causer be his own cost payer if a perfectly competitive environment is to be maintained. If each customer were to pay specifically the true cost of having service, telephone service charges would vary widely, from about $20 per month in some densely populated urban settings to $100 and more in sparsely populated rural areas. This cost variance is another threat to universal service.

(6) Nearly all types of telephone service use commonly shared facilities. This makes cost allocation difficult and arbitrary. Long distance calls must have access to local exchanges to complete the connection, and customers on local exchanges from long distance interconnection to contact persons on other local exchanges. This mutually beneficial and interdependent relationship makes both services more valuable but present a challenging pricing problem.

(7) Appropriate pricing policies are obscured further due to peak-demand calling time periods and the purpose for calling, be it business or pleasure related. The business community is arguably the prime beneficiary of the national phone network, and higher rates for basic service reflect the regulators' affirmation of this perceived greater value. However, small business appears to carry a greater burden of supporting the national network than most users. In order to qualify for lower WATS

rates, a large revenue commitment must be met, and most businesses do not make the volume of calling necessary to make WATS attractive. Small businesses make their calls principally during the business day when direct-dial rates are the highest. Most small businesses will be facing dramatically higher basic local service charges because Congressional action to prohibit or limit access charges does not include most businesses. However, many businesses will benefit by subscribing to WATS reselling firms and OCC's if these alternatives are offered in the area in which they reside.

(8) Despite the State rights argument, no economic rationale or technical reason can support a distinction between intrastate and interstate toll rates. Furthermore, regulation at the Federal and State levels tends to confuse both the customer, for whom rate increases are perenially unpopular, regardless of which regulator is responsible, and also the industry, which must accommodate enormous compliance requirements.

(9) Because usage of local phone service varies tremendously, a usage-based fee would generate revenue from those who derive great value from using the service. An allowance could be made such that a certain minimum number of calls (30 or 60 per month for example) could be made before measured rates were charged.

Winners and Losers

Correcting the current problematic pricing structure will be a difficult political challenge. Any sound and practical solution would entail shifting more of the cost burden onto customers who presently are not paying all the costs they are creating. If this took place, about 90 percent of all residential customers would pay more than they are now. Telephone service charges would decrease for large users of long distance if toll rates were to drop in response to a drop in the existing cross-subsidy system.

The cross-subsidy flow in the telephone industry is not based on geography per se. The flow is from users of overpriced long-distance services to users of underpriced local service. A mistaken but commonly held view is that residents from New Jersey, for example, subsidize Nevada residents. Most New Jersey customers do not, but the large corporations located there do indeed. The typical New Jersey resident would have to make about $28 of interstate calls to support just the interstate nontraffic sensitive cost allocation.[1]

Businesses making extensive use of long distance would be the beneficiaries of shifting more costs onto end-users. This shifting principally would be forwarded to residential customers who do not make a substantial number of long-distance calls. Unfortunately, if this cost adjustment is not made, residential customers may have their underpriced local service threatened by rate increases from another direction as well—private network bypass.

Technical advances have made private networks economically viable alternatives to the public network for a growing number of firms. Just

[1] Based on the assumption that one-fourth of message toll service revenue goes toward the support of local service.

1 percent of all business customers generate 50 percent of business revenue. Telephone rates could jump dramatically to compensate for revenue shortfalls if even a few customers dropped off the network. For example, if a few customers dropped off, accounting for a 25-percent revenue decrease, the rates charged to remaining customers would have to increase by 33 percent to make up for that loss (assuming costs remain constant). Bypassers also are difficult to retrieve back to the public network because of the large capital investment required to build private systems.

Politicians are likely to face some voter disenchantment due to price increases whether the FCC-proposed access charge goes into effect or not. The current cross-subsidy system simply is not sustainable if the industry is to be competitive and if prices and costs are to be used to reflect customer preferences and to allocate resources properly. If prices are not adjusted toward costs in the long distance market, then "bypass" problems are inevitable, and billions of dollars of valuable revenue support to the public network could be lost.

Prospects are dim for a quick and satisfactory solution to the pricing problem because it is much deeper than merely implementing an access charge. Given the present uncertain political reception to raising rates on residential customers, the public would be better served by reevaluating the entire pricing system of the telephone industry. Additional information from the FCC, industry officials, academic analysts, and other sources can shed new light on these important issues. Recent studies by the Joint Economic Committee, Congressional Budget Office, Wharton Econometrics, and National Economic Research Associates, for example, whether publicly or privately funded, offer Congress and regulators new insights.

Alternative Funding Sources

This section was prepared to stimulate new approaches to designing a telecommunications pricing system which provides support for universal service. A comprehensive pricing system could take into account varying combinations of fixed charges; usage-based charges; differential treatment for residential and business customers; high cost area support funds; targeted support funds to assist the disadvantaged, poor and disabled; and an assortment of other considerations deemed appropriate by policymakers. For this exercise the following data base is used:

Table 1.—*Telephone industry statistics*

Number of residential lines	85 million
Number of business lines	25 million
Number of local calls (annual)[1]	290 billion
Number of toll calls (annual)[1]	35 billion
Number of minutes, local (annual)[1]	1,500 billion
Number of minutes, toll (annual)[1]	300 billion
Local service revenue[1]	$30 billion
Long distance revenue[1]	$35 billion
Revenue distribution:	
Residential	55 percent
Business	45 percent

[1] Combined residential and business.

These figures are round-number estimates of industry statistics from the FCC, USTA, AT&T, and other sources. The data demonstrate that a considerable amount of revenue can be generated for cross-subsidies using low rates. An important feature of low rates is that the preferences of contributors to subsidies are not distorted greatly; thus the likelihood for uneconomical decisions is minimal. The following table shows how substantial amounts of revenue could be generated by small charges and rates:

TABLE 2.—*Telephone revenues*

[*Based on table 1 statistics*]

Type of charge	*Total annual revenue raised (in billions)*
$1 Monthly residential rates	$1.0
$1 Monthly business rates	.3
$.01 Charge per local call	2.9
$.01 Charge per local call allowing customers 30 calls without charge [1]	2.5
$.001 (1/10th cent) per minute local call	1.5
$.001 Per minute charge allowing 30 calls averaging 7 minutes duration [1]	1.2
$.10 Charge per toll call [2]	3.5
$.02 Charge per toll call minute [2]	6.0
2% Excise tax on local service	.6
2% Excise tax on toll calls [2]	.7
2% Excise tax on residential bills	.7
2% Excise tax on business bills	.6

[1] Assumes all customers made at least 30 calls.
[2] Includes both intrastate and interstate calls.

More statistical detail would allow for greater flexibility in targeting revenue sources for cross-subsidy purposes. For example, different rates for business and residential use could be employed. Local measured service is implied in the above example as a way to construct a usage-based charge for a subsidy source. This study makes no attempt to endorse or oppose any of these examples. Instead, this table should be viewed as a demonstration of possible alternative funding sources.

CONCLUSION

Public policymakers and regulators are faced with maintaining the time-honored and essential goal of universal telephone service while attempting to make an industry competitive, and trying to keep rates affordable at the same time. These goals certainly will be difficult to keep in balance; at times they even may be conflicting. Continued keen congressional and regulatory oversight is imperative.

An extensive national telecommunications network available at relatively uniform and reasonable rates is as essential and important to the U.S. economy as are the national transportation network, and the Postal Service. Indeed, if the economy of the Western World is entering the information age, then a telephone network readily available to all is a prerequisite. While an excessive subsidy to high-cost areas would be detrimental to the economy, a compelling public interest

argument exists to support the national telephone network. That network can be maintained in part through approximately uniform local and long-distance rates, just as uniform postal rates have served the Nation well for two centuries.

On the surface, the goals of universal service at reasonable rates and competition appear to be incompatible. Competition requires completely flexible prices and customers in areas with different costs would be charged different prices. Customers in high-cost areas and in disadvantaged circumstances would be discouraged from participating and truly benefiting from the service. However, the number of customers in unusual circumstances is small; thus, financing a universal service fund is manageable. For example, a $1 per month per line fee would raise in excess of $1 billion annually. A 1-cent charge per call would generate about $3 billion. Such revenue could be earmarked for subsidy purposes.

In the final analysis, customers and the Nation as a whole will be better served by maintaining an extensive and modern telecommunications network. As a supporting service industry to all other industries, as a vital communication link in times of national disaster or personal emergency, and as a means to bring people together for pleasure, the telephone is central to the well-being of our country. Now is the time to make this important part of our lives stronger and capable of making the future even better.

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